



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,888	08/09/2000	ARTHUR JING-MIN YANG	P 0290714	3779
43569	7590	05/19/2006		
MAYER, BROWN, ROWE & MAW LLP 1909 K STREET, N.W. WASHINGTON, DC 20006			EXAMINER HENDRICKSON, STUART L	
			ART UNIT	PAPER NUMBER

1754

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/601,888

Applicant(s)

YANG, ARTHUR JING-MIN

Examiner

Stuart Hendrickson

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 50-52 and 54-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 50-52, 54, 55, 57, 59-61 and 63 is/are rejected.
- 7) ☒ Claim(s) 56, 58, 62 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Art Unit: 1754

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims ^{52, 54, 55} 57, 61 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chieng et al. 5861110 taken with Schwertfeger et al. '375.

Chieng teaches in columns 3, 4, 8 and 20 making nanoporous silica gel from silica source in water and alcohol. Column 6 lines 10-15 teach gelling by ammonia. The reference indicates that further functionalization is desirable, but does not teach the details.

Schwertfeger teaches on pg. 12, 17 and ex. 1 aging a gel then treating with an alcohol and water solution of functionalization agent. Note that 80 degrees and nitrogen atmosphere can be used in some embodiments.

Treating the material of Chieng is an obvious expedient to obtain an ion-exchange material. No differences are seen in the loading levels or effects of claim 57, due to the similarity to what is disclosed. Performing the process as a one-pot or two-pot method are obvious variants absent unexpected results; In re Dailey et al. 149 USPQ 47 and In re Dilnot 138 USPQ 248.

Concerning claim 63, it appears possessed due to the similarity to the process claimed. Concerning claim 61, TEOS is an obvious expedient since 1) although more expensive (Chieng col. 1) its use avoids corrosion of the reactor from chloride and 2) it appears to be formed in-situ when chloride and ethanol are together (col. 4, col. 8 bottom) and 3) Schwetfeger suggests its use.

Claims 59 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over ^{52, 54, 55} Chieng et al. 5861110 taken with Schwertfeger et al. '375 as applied to claims ^{52, 54, 55} 57, 61 and 63 above, and further in view of 6268131.

The above references do not teach the claimed functionalization agents, however '131 does in column 23. Using this agent is an obvious expedient due to its suitability for a particular purpose.

Art Unit: 1754

Applicant's arguments filed 3/23/06 have been fully considered but they are not persuasive.

The claims comprise additional steps, so are not limited to one step. Even if they were, this is an obvious expedient for the reasons expressed above. Recitation of the inherent functioning of the regents does not impart patentability and no differences are seen. The claims include the final processing steps argued on pg. 2, which could also be performed in the same pot.

Claim 59 contains a misspelling.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication should be directed to examiner Hendrickson at telephone number (571) 272-1351.



Stuart Hendrickson
examiner Art Unit 1754